

34. A method as claimed in claim 18 wherein the compounded plastics extrudate contains a coupling agent and/or a nucleating agent in amounts of from 1 to 3 wt% and 0.1 to 2 wt% respectively. --

Please cancel claims 35 - 43 without prejudice.

44. (New) A hollow load bearing structural element extruded from a non-foamed thermoplastic plastics material which is compounded so that the element has a flexural modulus of 4000 Mpa or above. --

REMARKS

This is a response to the final office action dated September 19, 2002. There are presently 34 claims in the case and all claims stand rejected. In this response claims 1 and 18 have been amended and new claim 44 has been added in order to place in condition for allowance. This response is being submitted as part of a request for a continuing application under 37 C.F.R. 1.114.

Addressing the prior art vis-a-vis the amended claims 1 and 18 and new claim 35, the patent to Stuckey et al. teaches away from the use of non-foam materials (see column 2, lines 6-7), indicating that the boards made in accordance with Stuckey are lighter than non-foam boards and that non-foam boards are too heavy for the purposes intended. The Examiner will note that the boards of the present invention as claimed are hollow hence lighter. Stuckey teaches away from the use of hollow boards, foam material being unsuitable for this purpose. We, therefore, would submit that it would be nonobvious for a person skilled in the art to utilize Stuckey to apply its teachings in such a way as to result in a hollow board of non-foamed material.

Also the Examiner will note that the specification has been amended to make the proper references to the WIPO and European applications that were noted on pages 8 and 9 of the specification, respectively.

In a discussion with the Examiner, the Examiner indicated that he would review the amended claims and that these amendments would probably require an additional search in order to ascertain whether the amendments overcame the prior art.

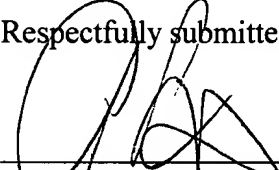
Because of the amendments to the claims applicant would assert that the claims are now patentable over the art and would request a notice of allowance.

Should the Examiner feel that a telephone conference would advance the prosecution of this application, he is encouraged to contact the undersigned at the telephone number listed below.

Applicant respectfully petitions the Commissioner for any extension of time necessary to render this paper timely.

Please charge any fees due or credit any overpayment to Deposit Account No. 50-0694.

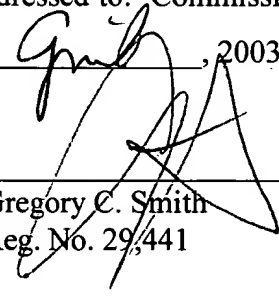
Respectfully submitted,



Gregory C. Smith, Reg. No. 29,441
Seth M. Nehrbass, Reg. No. 31,281
Charles C. Garvey, Jr., Reg. No. 27,889
Stephen R. Doody, Reg. No. 29,062
Brett A. North, Reg. No. 42,040
GARVEY, SMITH, NEHRBASS & DOODY, L.L.C.
PTO Customer No. 22920
3838 N. Causeway Blvd., Suite 3290
Metairie, LA 70002
Tel.: (504) 835-2000
Fax: 504-835-2070
e-mail: IPLNO@AOL.COM
www.neworleanspatents.com

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner For Patents, Box RCE, Washington, D.C. 20231, on this 15th day of June, 2003.



Gregory C. Smith
Reg. No. 29,441

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: James Leonard Smith DATE: April 15, 2003
SERIAL NO: 09/856,781 GROUP ART UNIT: 3635
FILED: 09/20/2001 EXAMINER: Basil S. Katcheves
FOR: "Load-Bearing Structures"
ATTORNEY DOCKET NO.: A01105US (98486.2)

* * * * *

Copy of Amendments Showing Changes

Please amend the application as follows:

IN THE SPECIFICATION:

Please amend the specification as follows:

Please amend page 8, lines 27-36 to read as follows:

-- Extrusion of mixes of materials to be utilised in the production of the planks or boards may take place using a high efficiency venting screw such as a Ventus screw. Additionally, one can utilise a rotary channel pump according to [W097/42019] EP-A-0467842 for dosing into an extruder consistent quantities of particulate material such as recycled polymer material, in particular chopped film which may be printed film, i.e. low grade material, but not liquid or powder. Such a dosing method avoids granulation of plastics material.--

Please amend page 9, lines 1-17 to read as follows:

-- In order to achieve a product with relatively long glass fibres in it, it is necessary to add these fibres after working by the extruder screw used in compounding the material for the board which would otherwise fragment glass fibres to too great an extent. Dispensing of glass fibres and other solid material into matrix passing through the downstream portion of an extruder may be achieved using a flow pump according to [EP-A-0467842] W097/42019 for transferring and compacting particulate solids. The glass fibres are also preferably oriented in planes parallel to a load bearing surface thereof by passage through a known multi-layer grid producing multi-layering of glass fibres in the extrudate obtained. This ensures a maximum strength of product. It has also been found that the stiffness of the product is improved if the glass fibres are not of a uniform length.- -

IN THE CLAIMS:

Set out below is a copy of claims showing changes made in this amendment, with added matter underlined and omitted matter in brackets:

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- - 1. (Twice Amended) A hollow load bearing structural element extruded from a thermoplastic plastics material which is compounded so that the element has a flexural modulus of 4000 Mpa or above.

(147500 psi)

2. An element as claimed in claim 1, which has a flexural modulus of 5500 Mpa or above.

3. An element as claimed in claim 1, which has a ratio of flexural modulus in Megapascals to density in kg/m³ of at least 2.5:1.

4. An element as claimed in claim 3, wherein said ratio is at least 4.2:1.

5. An element as claimed in claim 1, which comprises from 30-90 wt% of thermoplastic polymer and 25-50 wt% of an elastic modulus increasing material.

6. An element as claimed in claim 1, wherein the thermoplastic polymer is polyethylene, polypropylene or polyethylene terephthalate.

7. An element as claimed in claim 6, wherein the thermoplastic polymer is bi-axially oriented polypropylene.

8. (Amended) An element as claimed in claim 1, wherein the thermoplastic plastics material is a recycled material.

9. An element as claimed in claim 1 which contains glass fibres as an elastic modulus increasing material.

10. An element as claimed in claim 9, wherein the glass fibres have a length of at least 5 mm.

11. An element as claimed in claim 10, wherein the glass fibres have a length of 8-12 mm.

12. An element as claimed in claim 9 wherein the glass fibres are oriented in planes parallel to a load bearing surface thereof.

13. (Amended) An element as claimed in claim 1, which has compounded with the thermoplastic plastics material at least one substance selected from fire retardants, UV stabilisers and/or friction increasers.

14. An element as claimed in claim 1 which has at least one substance selected from fire retardants, UV stabilisers and/or friction increasers present in an outer layer which has a thickness of up to 1 mm.

15. (Amended) An element as claimed in claim 14, wherein the outer layer is formed from thermoplastics plastic material containing the at least one substance and co-extruded with the

remainder of the material forming said element.

16. An element as claimed in claim 1, which has a co-extruded outer layer which has anti-slip character.

17. An element as claimed in claim 1 wherein the compounded thermoplastic plastics material contains a coupling agent and/or a nucleating agent in amounts of from 1 to 3 wt% and 0.1 to 2 wt% respectively.

18. (Twice Amended) A method of providing access by foot to a main location to which access is required, which comprises providing access by foot to a first location and locating between the first location and the main location, so as to have an unsupported span existing between support positions, a platform structure which resists static and/or dynamic loading, characterized in that the platform structure is formed as a non-foamed thermoplastic plastics extrudate which is compounded so that the structure has a flexural modulus of at least 4000 Mpa.

19. A method as claimed in claim 18, wherein the compounded plastics extrudate has a flexural modulus of 5500 Mpa or above.

20. A method as claimed in claim 18, wherein the ratio of flexural modulus in Megapascals to density in kg/m^3 of plastics material of the compounded plastics material is at least 2.5:1.

21. A method as claimed in claim 20, wherein said ratio is at least 4.2:1.

22. (Amended) A method as claimed in claim 18, wherein the compounded plastics extrudate comprises from 30-90 wt% of thermoplastic polymer and 25-50 wt% of an elastic modulus increasing material.

23. A method as claimed in claim 18, wherein the thermoplastic polymer is polyethylene, polypropylene or polyethylene terephthalate.

24. A method as claimed in claim 23, wherein the thermoplastic polymer is bi-axially oriented polypropylene.

25. A method as claimed in claim 18, wherein the thermoplastic plastics material is a recycled material.

26. A method as claimed in claim 18, wherein the compounded plastics extrudate contains glass fibres as an elastic modulus increasing material.

27. A method as claimed in claim 26, wherein the glass fibres have a length of at least 5mm.

28. A method as claimed in claim 27, wherein the glass fibres have a length of 8-12 mm.

29. A method as claimed in claim 26, wherein the glass fibres are oriented in planes parallel to a load bearing surface of the compounded plastics extrudate.

30. A method as claimed in claim 18, wherein the plastics extrudate has at least one substance selected from fire retardants, UV stabilisers and/or friction increasers compounded therein.

31. A method as claimed in claim 18, wherein the compounded plastics extrudate has at least one substance selected from fire retardants, UV stabilisers and/or friction increasers present in an outer layer of the structure which has a thickness of up to 1 mm.

32. A method as claimed in claim 31, wherein the outer layer is formed from thermoplastic plastics material containing the at least one substance and co-extruded with the remainder of the material forming said structure.

33. A method as claimed in claim 18, wherein the structure has a co-extruded outer layer which has anti-slip character.

34. A method as claimed in claim 18 wherein the compounded plastics extrudate contains a coupling agent and/or a nucleating agent in amounts of from 1 to 3 wt% and 0.1 to 2 wt% respectively. - -

Please cancel claims 35 - 43 without prejudice.

--44. (New) A hollow load bearing structural element extruded from a non-foamed thermoplastic plastics material which is compounded so that the element has a flexural modulus of 4000 Mpa or above. --

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